

III. *On some hitherto imperfectly-known South African
Lepidoptera.* By ROLAND TRIMEN, M.A., F.R.S., etc.

[Read February 7th, 1912.]

PLATE XVII.

THE few forms here figured are such as need illustration either from their close alliance to congeners or from their rarity.

Mycalesis ena, Hewits., *Pyrgus zebra*, Butl., and *P. secessus*, Trim., form. *aestiv.*, have been received from my friend Mr. H. L. Langley Feltham, of Johannesburg; the *Mycalesis* and *P. secessus* being now for the first time recorded from extra-tropical South Africa.* *Pseudonympha d'urbani*, Trim., and *Leptoneura bowkeri*, Trim., ♀, are figured from examples collected in N.E. Cape Colony by Mr. F. Graham in 1891; and *Ps. hippia* (Cram.), from one taken on Table Mountain in 1890, by Mr. R. M. Lightfoot.

The Smerinthine hawkmoth, *Platysphinx bourkei*, Trim., is figured from the type (a ♀) captured in Zululand by Admiral E. Bourke, in 1909.

Fam. NYMPHALIDAE.

Sub-fam. SATYRINAE.

Mycalesis ena, Hewits.

Mycalesis ena, Hewits., Ent. Mo. Mag., p. 107 (1877).

Plate XVII, figs. 1 (♂), 1a (♀).

This form is, as Hewitson (*l.c.*) pointed out, very close to the West African *M. miriam* (Fab.), but readily distinguished by its larger size and paler colouring, and by having on the *upperside*, as well as on the underside, of

* Mr. Feltham also sent another interesting addition to the extra-tropical South African list of *Hesperidae*, *vid. Platylesches robustus*, Neave (Proc. Zool. Soc. Lond., 1910, p. 83, pl. iii, f. 7, ♂), hitherto recorded from N. and S. Rhodesia only, but taken (three examples) by Mr. A. T. Cooke at White River in the Transvaal, in August 1907.

the forewings the ordinary two ocellate spots well developed. Hewitson's type specimens are from Lake Nyassa,* but the form has since been found as far to the southward as the Transvaal. The first examples from the latter region that came under my notice were taken in the Barberton District in the year 1888 by Mr. J. P. Cloete and Mr. C. F. Palmer; and the specimens now figured are a dry-season ♂, captured at Nelspruit by Mr. H. L. Feltham on May 10, 1904, and a wet-season ♀, taken by Mr. A. T. Cooke at White River, near Nelspruit, in 1909. Mr. Feltham writes that he met with this *Mycalesis* very sparsely, flying in wet, grassy spruits or hollows in company with *Ypthima asterope*, and notes the resemblance between the two butterflies when on the wing.

I think it likely that *M. ena* will prove—when a good series of it can be compared with one of *M. miriam* throughout its range—to be not separable as a distinct species.

Pseudonympha d'urbani, Trim.

Pseudonympha d'urbani, Trim., S.-Afr. Butt., i, p. 80 (1887).

Plate XVII, fig. 2 (♂).

This butterfly is nearly allied to *P. neita*, Wallengren,† but it is constantly recognisable by the absence on the underside of the hindwing of the basal fulvous, and by the presence there of a third (ante-median) dark transverse streak as well as of a paler discal fascia. On the upper-side, too, as well as on the underside, all the ocelli are smaller and in much duller rings, especially those of the hindwings.

The sexes differ scarcely at all, except that the ♀ has blunter forewings, and is usually rather paler. As regards the ocellate spots there is a good deal of variation in both sexes, the ocellus of the forewing varying in size, and being in many examples rather ovate than circular, and the two minute ocelli of the hindwing being seldom both present. On the underside the ocelli of the hindwing

* Mr. S. A. Neave (Proc. Zool. Soc., 1910, p. 9) notes *M. ena* as occurring throughout N. Rhodesia, and being especially common in the Luangwa Valley.

† K. Sv. Vet.-Akad. Förhandl., 1875, p. 84, n. 3; see also Trimen (l. c.), p. 79, pl. 7, f. 2 (1887).

are usually all represented, but are rarely more than minute, and in some cases one or two are barely indicated or actually wanting, while in three ♂♂ I found all four completely obsolete. The three dark-brown irregular transverse streaks on the underside of the hindwing, and the paler fascia between the middle and outer streaks, are also variable in their definition.

This *Pseudonympha* was discovered near King William's Town, as far back as the year 1861, by my friend Mr. W. S. M. D'Urban, and I had the pleasure of naming it after him in my work quoted above, and of recording the few other specimens that had reached me from other localities in Eastern Cape Colony, *vid.* Grahamstown (Mrs. M. E. Barber), and the north of the Albert District (Col. J. H. Bowker). It was not until 1891-93 that I received a fine series of the insect, from Dordrecht, in the Wodehouse District of N.E. Cape Colony, taken by an ardent and successful entomological observer, Mr. Francis Graham, then resident magistrate of the district. He reported it as occurring numerously from October to January, but as being almost exclusively confined to the higher hillslopes.

Pseudonympha hippia (Cramer).

Papilio hippia, Cram., Pap. Exot., iii, pl. cxxii, ff. C, D (1779).

Pseudonympha hippia, Trim., S.-Afr. Butt., l, p. 82 (1887).

Plate XVIII, fig. 3 (♂).

In my work above cited I was able to mention only two examples which agreed satisfactorily with Cramer's rough figures, and to a less extent with the equally rough woodcut given by Burchell* of the upperside of his *Papilio* (*Hipparchia*) *montana*. These examples were taken by myself on the summit of the southern projection of the Table Mountain range, respectively in February 1864, and January 1865; and Burchell's insect is similarly recorded as having been taken on the summit of the eastern side of Table Mountain on January 24, 1811. In the Appendix to Vol. iii of my work, I noted (p. 395) the capture by Mr. H. L. Feltham of a third example in the same locality in January 1888, and of three others at a

* "Travels, Int. S. Africa," i, p. 45 (1822).

somewhat lower elevation, by Mr. R. M. Lightfoot in February 1889. Subsequently, on December 28, 1889, Mr. Feltham met with four *hippia*, and on January 2, 1890, with four more; these occurred on the lower plateau of the same mountain, above the top of Hout Bay gorge. On the last-named date Mr. Lightfoot in the same place took no less than twelve specimens.

There is good reason for considering this *Pseudonympha* to be confined to the higher levels of the Cape Promontory, in marked contrast to its nearest congener and companion *P. vigilans*, Trim.*—with which at first I confused it—the latter extending in range (and under some variation as regards the tint and ocellate marking of the underside of the hindwings) over the greater part of South Africa.

Leptoneura bowkeri, Trim.

Leptoneura bowkeri, Trim., Trans. Ent. Soc. Lond., 1870, p. 347, pl. vi, f. 2 (♂); and S.-Afr., Butt., i, pp. 98-9 (♂, ♀) (1887).

Plate XVII, fig. 4 (♀).

Only the ♂ of this very distinct form of *Leptoneura* was known to me when I first described it, and in 1887 (*op. cit.*) I could record but a solitary ♀, sent in 1879 from the Lydenburg district of the Transvaal by Mr. T. Ayres. It was not until 1891-93 that an extensive series of both sexes was secured, at Dordrecht, in N.E. Cape Colony, by Mr. Francis Graham, who forwarded to me no fewer than twenty-seven ♀♀ and sixty-nine ♂♂; and I am glad to have the opportunity of giving here a figure of one of these ♀♀, and of indicating the variation exhibited by both sexes in so numerous a series all collected in one locality.

The ♂♂ vary much, on the upperside of the forewing, in the size and distinctness of the whitish submarginal spots, and the extent to which the lower three spots are reddish-tinged—in thirty-one ♂♂ there exists a seventh spot (often indistinct) below the first median nervule; and there is considerable instability as to the number of ocelli, twenty-four specimens having only a single ocellus, twenty having also a minute second ocellus

* For a figure (♂) of this form from the Weenen District of Natal, see Butler, Proc. Zool. Soc. Lond., 1897, pl. 1, f. 1 (1898).

on outer edge of the third submarginal whitish spot, and two having besides a minute *third* ocellus as in the ♀. A similar variableness prevails as regards the ocelli on the upperside of the hindwing; though usually four in number, no fewer than fourteen examples exhibit a more or less ill-defined fifth ocellus (as in ♀) below the first median nervule; in one ♂ these markings are so small as to be only just visible, while in another they are reduced to minute rufous rings. The ♀♀ vary on the upperside as follows, *vid.* in the forewing, nine want the third ocellus; and, in the hindwing, six want the small inferior fifth ocellus, but eight have another (usually more distinct) additional ocellus between the subcostal nervules. On the underside of the hindwing there is variation in the development of the greyish scaling—in two examples this is exceptionally strong—between the two median dark transverse stripes and about the upper three of the ocelli.

This *Leptoneura* ranges widely over eastern South Africa, from the Bedford District of the Cape to the Lydenburg District of Transvaal, but appears to be strictly confined to elevated areas and lofty hill-ridges. Mr. Graham, who carefully observed this species in the neighbourhood of Dordrecht, found that, in its principal locality ("The Kloof"), and in other similar spots, it was confined to the bush growing below the bare crest of the slope on the north (shady) side of the ravine, and was found chiefly among long wiry grass in the open spaces between the thickets. He was struck with the apparent excess in number of the ♂♂, but estimated it as very much less than I had judged it to be in *L. clytus* (Linn.), and not more than from twelve to fifteen for every ♀ met with.

Fam. HESPERIIDAE.

Sub-fam. HESPERIINAE.

Pyrgus zebra, Butl.

Pyrgus zebra, Butl., Ann. and Mag. Nat. Hist. (6), i, p. 207 (1888).

Plate XVII, fig. 5 (♀).

The type of this species was recorded by Dr. A. G. Butler as a native of India—"Campbellpore and Chittur Pabar (*Major Yerbury*)"—but I referred to it in my "S.-Afr.

Butt." (iii, p. 290, 1889) because it was described as nearest to *P. sataspes, mihi*, a common South African species. In 1897 (Proc. Zool. Soc. Lond. p. 856) Dr. Butler noted the interesting fact that Mr. G. A. K. Marshall had taken specimens of *P. zebra* on the River Tugela in Natal in November 1896, and remarked, "These Natal examples cannot be distinguished from those of N.W. India, excepting in their slightly blacker ground-colour (which, by the way, is probably due to the superior freshness of the specimens)." It is also from Weenen, in Natal, that Mr. H. L. Feltham's specimen, which I here figure, was obtained.

I have compared this example with three others, in the Hope Department of the Oxford University Museum, which appear to be referable to the same species, and which were taken in N.E. Rhodesia (2) and Makanga, Tette (1), by Mr. S. A. Neave early in 1908. The Weenen example differs in being considerably smaller, and in having on the upperside the three median white spots of the forewing distinct instead of faint, and the median white band of the hindwing more even and continuous. Mr. Neave (Proc. Zool. Soc. Lond., 1910, p. 93) notes that the few individuals from Fort Jameson and the Luangwa Valley in Rhodesia are "considerably larger than Mashonaland specimens in the National Collection, which are in their turn larger than the type from India." *P. zebra* is not closely allied to *P. sataspes, mihi*, but comes nearest to the East African *P. diomus*, Hopff., especially in the conspicuous feature of an additional outer narrow white stripe from apex to near anal angle on the underside of the hindwings.

Pyrgus secessus, Trim.

Pyrgus secessus, Trim., Proc. Zool. Soc. Lond., 1891, p. 102, pl. ix, f. 22 (♂).

Plate XVII, figs. 6 (♂), 7 (♀).

Since I described and figured (*l.c.*) this *Pyrgus* from two examples taken by A. W. Eriksson at Omrora, S.W. Africa (about 15° 15' S. Lat.), it does not seem to have been much noticed till Mr. S. A. Neave (Proc. Zool. Soc. Lond., 1910, p. 73) recorded it as not uncommon in N.E. Rhodesia, especially in the Lake Bangweolo District. But Mr. G. A. K. Marshall met with it near Salisbury and in

the Mazoe District, Mashonaland, as far back as 1894 and 1895. Among the few specimens received from Mr. Marshall there were several which differed strikingly from typical *secessus* in presenting on the underside of the hind-wing a conspicuous creamy-whitish median band and other markings, instead of the very faint ones characteristic of *secessus*, which are scarcely distinguishable from the pale dull brownish-ochreous ground-colour. I thought that these white-marked individuals represented a very distinct variety or possibly a closely allied species; and it was not until the year 1905 that my attention was again recalled to them by receiving from Mr. H. L. Feltham and Mr. A. T. Cooke two quite similar but larger examples taken by the latter in the Transvaal. The occurrence of this conspicuously-banded form so much further southward rather confirmed my impression that it might be distinct from *secessus*; and Mr. Feltham and Mr. Cooke kindly promised to endeavour to secure more material towards deciding the question. This endeavour has been successful, and I have received from them thirteen examples (8 ♂♂, 5 ♀♀)—four taken at Nelspruit, and nine at White River (about eight miles from Nelspruit). All these are of the same conspicuous white marking on the underside of the hind-wing, presenting no variation in the direction of the obscure colouring of typical *secessus*. Eleven of them bear dates of capture, ranging from October to January; and the dates of Mr. Marshall's three Mashonaland examples of the same form were respectively October 21 and 30 and November 4. Similarly, in a series of thirteen N. Rhodesian examples collected by Mr. Neave, which are in the Hope Department of the Oxford University Museum,* the only one with the underside of the hind-wings white-banded is dated November, while three with the band much paler than in typical *secessus* are dated respectively September 18, October 29, and December 1. The remaining nine specimens are dated as captured in July and August, and though varying in depth of tint all present the dull underside colouring of typical *secessus*; and I have recorded (*l.c.*) that Mr. Eriksson took the South-Angolan type examples in August 1887.

The dates given by the several captors appear to indicate

* I am indebted to my friend, Mr. H. Eltringham, for supplying these dates of capture of Mr. Neave's specimens, which in a rather hurried examination I had omitted to note.

clearly that the case is one of seasonal dimorphism, quite akin to those presented by many species of the Pierine genus *Teracolus* in the same regions, in which the conspicuous white or whitish underside of the hindwings during the wet season is replaced during the dry season by one more or less obscured with paler or deeper tints of reddish-ochreous or even brownish-ochreous.

I have not hitherto found recorded any other instance of seasonal modification in the species of *Pyrgus*, either in Africa or elsewhere; but—considering how large a genus this is, how very widely dispersed over the tropical and temperate regions of the globe, and how many of its forms are so variable and so closely allied as to be with difficulty distinguishable—it seems by no means improbable that “dry” and “wet” phases are not rare among them, but until now have been mistakenly regarded as distinct species. The phenomenon has indeed been recognised as occurring among some species of other genera of the *Hesperinae*; Mr. Neave mentioning (*l.c.* pp. 68 and 71) specially two cases in N. Rhodesia which came under his notice, *vid.* those of *Eagris jamesoni*, E. M. Sharpe, and *Abantis venosa*, Trim. The latter instance is closely comparable with that of *Pyrgus secessus*, for Mr. Neave writes of this species of *Abantis*: “Extreme dry specimens are of a golden-brown colour, losing all the white discal area and black margin of the hindwing underside.”

Fam. SPHINGIDAE.

Sub-fam. SMERINTHINAE.

Platysphinx bourkei, Trim.

Platysphinx bourkei, Trim., Ent. M. Mag. (2), xxi, p. 209 (1910).

Plate XVII, fig. 7 (♀).

I take this opportunity of giving a figure of the only example (a ♀) known to me of this very striking Smerinthine hawkmoth, which was taken in Zululand in 1909 by my friend Rear-Admiral Edmund Bourke, as noted in my description above cited. In pointing out the relation of this form to the Los Islands *P. phyllis*, Rothsch. and Jord., and the larger Congo *P. stigmatica*, Mab., I omitted to mention that a specimen of the latter species, taken on grass near

trees at Cowie's Hill, Pinetown, Natal, by Mr. T. L. Ayres, was in May 1891, lent to me by the captor for determination. The circumstances of the discovery of this example of *P. stigmatica* are remarkably similar to those recorded (*l.c.* p. 210) in the case of *P. bourkei*; and of neither species does any other South African specimen appear to have been noticed.

EXPLANATION OF PLATE XVII.

[*See Explanation facing the PLATE.*]